



Fall & Winter 2012

Inside This Issue:

Moapa Dace (continued)	2
Have a Phainopepla Day!	3
Wildfires Impact Native Fish	4
An Invasive Spiral	5
Conserving Monte Neva Paintbrush	6
New Improved Process For Project Species List Requests	7
Nevada's Greater Sage-Grouse Conservation	7
A Message From The State Supervisor	8



Jack Ruggirello, a graduate student at the University of Arizona, snorkels in a shallow reach of the Muddy River system to count the Moapa dace living at the Moapa Valley National Wildlife Refuge.

Photo: D.Balduini/USFWS

Moapa Dace Numbers Up

By Dan Balduini

The continued efforts of the U. S. Fish and Wildlife Service (Service) and its partners appear to be benefitting the Moapa dace, an endangered fish found only in the Warm Springs area of the Moapa Valley in southern Nevada.

Biologists conducted a snorkel survey in the Muddy River system during the first week of August 2012, and counted 1,181 Moapa dace. The count represents an increase of 65 percent over the number of dace found a year earlier in August 2011 (713 fish). This is the first time since February 2007 that the Moapa dace population has topped 1,000 fish.

"This milestone could not have been reached without the focus and coordinated efforts of everyone involved," said the Service's state supervisor Ted Koch. "Our staff and all of our partners in this effort should be proud of this accomplishment."

The Service's partners, the Bureau of Land Management (BLM), Nevada Department of Wildlife (NDOW), Southern Nevada Water Authority (SNWA), U.S. Geological Survey (USGS), Moapa Band of Paiutes, Moapa Valley Water District, Clark County Desert Conservation

Moapa dace (continued)



Photo: USFWS

Moapa Dace—Endangered (*Moapa coriacea*)

Maximum length: 5 inches

The Moapa dace is a small, bronze-colored minnow occurring only in several warm springs and outflows in the upper Muddy River in Clark County. Moapa dace are omnivorous drift feeders, consuming insects and plant material. In 1979, the Moapa Valley National Wildlife Refuge was established to protect habitat for the Moapa dace and other native species. Spring outflows and small streams on and immediately below the refuge provide the only remaining spawning habitat for this species. The species was historically common in 25 springs and about nine miles of outflow streams and river channel. Threats include water depletion due to diversions and groundwater pumping, spring modifications for agriculture, and the introduction of non-native fishes.

Program, the Nature Conservancy, NV Energy, Coyote Springs LLC, and local landowners, have expanded efforts in recent years to protect and restore habitat for the native aquatic species in the upper Muddy River system while also controlling threats from non-native species.

“The Southern Nevada Water Authority is very pleased with the strides being made in restoring this habitat,” said Robert Johnson, SNWA land manager for the Warm Springs Natural Area. “It is rewarding to see that our efforts, and the efforts of the partnering agencies, are providing measurable contributions toward preserving the Moapa dace.”

The Moapa dace is endemic to the thermal springs and streams that form the headwaters of the Muddy River (which eventually joins the

Colorado River at Lake Mead). The Warm Springs area, which includes the 116 acre Moapa Valley National Wildlife Refuge, is home to other endemic aquatic species including the Moapa White River springfish and numerous invertebrates such as springsnails, water bugs, and riffle beetles. The Moapa Valley National Wildlife Refuge is part of the Service’s Desert National Wildlife Refuge Complex (Desert Complex).

“Because Service staff had restored habitat on the wildlife refuge, most of the dace in the system have generally been found there,” said Shaun Sanchez, manager of the Desert Complex. “Obviously, the additional restored habitat off of the refuge and the elimination of non-native competitor and predatory fish gives the dace more of a fighting chance.”

In the mid-1990s, non-native mollies and blue tilapia decimated the Moapa dace population and other native fish in the Muddy River. NDOW leads the effort to eliminate the non-native species.

“Controlling the exotic fish is time-consuming, costly, and challenging,” said Jon Sjoberg, NDOW’s supervising fisheries biologist. “We are pleased that the increased control efforts appear to be showing promise.”

“While we celebrate the nearly 1,200 endangered dace now in the Moapa Valley, we remain cautiously optimistic about the long-term outlook for the Moapa dace,” Koch said. We know that recovery of the species is still a long way off.”

Have a Phainopepla Day!



Death Valley Academy students (above, from left to right) Diannet Lujano, Shayne Waters, and Kevin Cunningham video tape breeding phainopeplas in Shoshone, California. A phainopepla (right) being banded.

Photos: Richard Cantino



In 2012, the Service, Red Rock Audubon Society, and Shoshone Village sponsored a community outreach project called "Have a Phainopepla Day!" for students at the Death Valley Academy located in the town of Shoshone, Inyo County, California.

Students from fifth through twelfth grades participated in outdoor and indoor classes to learn about the life history of phainopepla (*Phainopepla nitens*), a common bird in their community during the winter and spring. Students not only learned about the species, but became familiar with basic birding, use of binoculars, and video cameras.

Kevin Cunningham, a ninth grader summarized his experience as follows:

"This year we started a new project that was supposed to teach us about birds but in particular about phainopepla. However 'The Bird Project', as everyone calls it, has changed into so much more for not only the kids but the people that have helped us with it. The project has been very fun, creative and informational. My film is about phainopepla love, and I hope that my movie will be able to show people their mating, eggs, and chicks. My favorite part of the project is being able to identify birds by their sounds and by what they look like. I actually

have shared some of my knowledge with my family and friends who are not in the bird project."

A highlight for most students was helping biologists color band phainopepla. Students commented that they did not know learning could be so fun!

The Service's Connecting People with Nature Grant funded a professional bird bander and purchased necessary equipment to make this project a success.

Wildfires Impact Native Fish



Willow Fire damage in the Nelson Creek drainage.

Photos: BLM



When most people think of the destruction caused by a wildfire to plants and animals, they typically think of terrestrial species. However, wildfires can have devastating impacts to aquatic species as well.

In 2012, the Willow Fire burned nearly 43,000 acres of public and private lands in the Rock Creek watershed in northeastern Nevada, and the Holloway Fire burned over 461,000 acres (215,600 acres in northern Nevada and 245,400 acres in southern Oregon). These large wildfires have severely impacted the threatened Lahontan cutthroat trout (LCT) as well as other aquatic species in 92 miles of streams.

Fire is not uncommon in the Great Basin, however, the size and frequency of fires has increased in recent times. For example, since 2005, the entire Rock Creek watershed (581, 575 acres) has

burned, many areas burning multiple times.

The Willow Fire occurred in four of the six LCT (*Oncorhynchus clarkii henshawi*) occupied streams within the Rock Creek watershed. The fire burned the entire Lewis and Nelson Creek watersheds which had approximately 14 miles of connected LCT habitat. Fire severity around Nelson Creek was so high that fish mortalities were observed in the creek.

The Holloway Fire unleashed its fury in the McDermitt Creek and the Willow-Whitehorse watersheds. McDermitt Creek is part of a large ongoing restoration effort to reconnect over 50 miles of LCT habitat. The Willow-Whitehorse watershed has 74 miles of occupied LCT habitat and hosts the only intact LCT population in Oregon.

The Holloway Fire burned the headwaters of McDermitt Creek including Sage, Line Canyon, and Corral Canyon Creeks which are all LCT occupied waters. The entire Willow-Whitehorse watershed was burned by high severity fire, and again, fish mortalities were observed.

Although the flames of these fires have been extinguished, impacts to the aquatic species will continue into the future. Emergency stabilization and rehabilitation projects are being implemented on both private and public lands to minimize sediment inputs to burned stream zones. However, sediment in runoff is expected to further impact water quality continuing to take a toll on LCT and other aquatic species during high precipitation events until vegetation has reestablished preventing erosion.

An Invasive Spiral

Wildfires in the Great Basin are occurring more frequently and at larger scales than historic norms due to ecosystem shifts from diverse shrub-grass communities to near monocultures of annual grasses. As of October 12, 2012, 986 fires burned 620,000 acres throughout the state of Nevada. Unfortunately, wildfire is only part of the spiraling problem in sagebrush ecosystems.

Historically, the fire interval for sagebrush systems ranged from 20 years in the higher elevations to over 100 years in the arid lower elevations, but has shortened since European settlement. Fire suppression practices by humans and a decrease in native perennial grasses and forbs (fine fuels) due to increases in livestock grazing allowed woody shrubs and tree species (woody fuels) to dominate the landscape. At the same time, invasive annual grasses, primarily cheatgrass (*Bromus tectorum* L.), were being introduced and marching across the landscape, filling the niches native grasses and forbs once occupied.

The increase in the fine fuel loads in the sagebrush understory from cheatgrass has increased the fire frequency across the landscape. The increased fire frequency does not provide adequate time for native plant species to recover, thus many previous sagebrush dominant sites have been converted to cheatgrass monocultures that now burn every three to ten years.

As an annual plant, cheatgrass lives to reproduce and is adept at taking

*BLM estimates
that invasive
plants increase by
4,000 acres a day
in the western
U. S.*

over disturbed areas, especially recently burned sites. Its survival strategy is to simply beat out other plants, which it does through its massive seed output. According to Mike Pellant, Bureau of Land Management (BLM) Great Basin Restoration Initiative Coordinator, "A single stalk of the light, feathery cheatgrass can produce 1,000 seeds, and a single acre may contain hundreds of thousands of plants. BLM estimates that cheatgrass and other non-native invasive plants increases by 4,000 acres a day in the western U.S."

With the vicious cheatgrass-wildfire cycle spreading across the landscape, birds and mammals, such as the greater sage-grouse (*Centrocercus urophasianus*) that are sagebrush-obligate and depend on sagebrush for survival are suffering from habitat loss.

Federal and state agencies as well as many private landowners are incorporating conservation measures for sage-brush dependent species in current and future land management activities in an effort to reduce the further loss of this important ecosystem.

Conserving Monte Neva Paintbrush



Sarah Kulpa, Service botanist (above) surveys for Monte Neva paintbrush (below).

Photo: S.Werdon/USFWS

Monte Neva paintbrush (*Castilleja salsuginosa*) is a member of the Orobanchaceae (broomrape) family. It can be up to seven inches tall and is probably somewhat parasitic, deriving some of its sustenance from another plant. The entire plant, including the flower, is mostly purplish-brownish. It is restricted to damp, open alkaline clay soils on travertine hot-spring mounds.

Monte Neva paintbrush is endemic to Nevada (only occurs here) and known from only two locations: Hot Springs Hill in Eureka County and Monte Neva Hot Springs in Steptoe Valley in White Pine County.

Because the Monte Neva paintbrush has a small population size and restricted distribution, it is very susceptible to changes in its habitat. For instance, the Hot Springs Hill population's greatest threat is from changes in groundwater level and/or changes in geothermal spring discharge because of its reliance on geothermal deposits. Other threats to this tiny plant include heavy trampling by livestock and wild horses, off-road vehicle recreation, and jackrabbit herbivory.

In 2009, the Service outlined measures that would improve Monte Neva paintbrush population numbers

and distribution. These measures included long-term demographic monitoring, protective fencing of populations, seed collection and storage, and development of a conservation agreement with the BLM.

In 2012, a Cooperative Range Improvement Agreement was signed by BLM, the Service, and Nevada Natural Heritage Program to fence three acres at Hot Springs Hill and develop a monitoring protocol for this species. The Service and partners are hopeful that these conservation measures will preclude a need to consider the Monte Neva paintbrush for possible protection under the Endangered Species Act in the future.



Photo: S.Kulpa/USFWS

New Improved Process For Project Species List Requests

The Nevada Fish and Wildlife Office is pleased to announce we began issuing official species list requests for threatened, endangered, and candidate species through the Information, Planning, and Conservation System (also known as IPaC) in mid-December 2012. This National system is designed for easy, public access to species information for both private citizens and agency employees to assist in determining how their activities may impact sensitive natural resources. The information provided by IPaC is generated by the Service and can be quickly obtained electronically which should improve efficiency of project planning. We will continue to process species list requests under the older system (written requests mailed to our office) for those individuals who do not have computer access to the IPaC system.

For more information on the IPaC system visit the IPaC website at: <http://ecos.fws.gov> and click on the Information, Planning, and Conservation System (IPaC) link under Public Applications.

Nevada's Greater Sage-Grouse Conservation



Greater sage-grouse
(*Centrocercus urophasianus*)

photo: J.Stafford/USFWS

In March 2012, the Governor of Nevada established a greater sage-grouse committee to develop actions for the conservation of the species. The state developed a Strategic Plan which they believe, if implemented, will successfully conserve the species and preclude the need for listing under the Endangered Species Act.

The service is encouraged by the amount of collaboration and momentum of the efforts to conserve greater sage-grouse throughout the state. State, local, Tribal, private interests, and other federal agencies are all working together to

develop and implement conservation measures that will conserve the greater sage-grouse while allowing the Nevada economy to thrive.

In September 2012, the Service provided \$40,000 to assist the state in moving forward with their greater sage-grouse conservation efforts.

The Service is scheduled to make a proposed listing or not warranted decision on the bi-state greater sage-grouse population that occurs in California and Nevada in 2013, and the wider ranging population of greater sage-grouse that occurs in 11 western states, including Nevada, in 2015.



**U. S. Fish & Wildlife Service
Nevada Fish & Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502**

**Phone: 775-861-6300
Fax: 775-861-6301**

**We're on the web!
<http://www.fws.gov/nevada>**

**Follow us at:
<http://www.facebook.com/usfwspacificsouthwest>
<http://twitter.com/USFWSPacSWest>**

A Message From The State Supervisor

We continue to make progress recovering species in Nevada, and on maintaining and building partnerships in conservation.

I am pleased to report our recent survey of Moapa dace indicates that the number of these small endemic fish has increased by 65 percent over the numbers estimated in the previous year. The increase in their numbers is another example of how many key partners working together can make a difference in species conservation.

Large wildfires in the state however, have taken a toll on many of Nevada's species and their habitats including Lahontan cutthroat trout and sage grouse. Contributing to these large wildfires is the continuing spread of the invasive cheatgrass. Until we can control cheatgrass, these catastrophic wildfires and loss of important habitat will continue.

The spread of cheatgrass has been an issue for many years, and efforts to address it have met with limited success so far. We will continue to work with our partners even harder to seek new conservation strategies that will help prevent further loss of Nevada's important ecosystems.

Sincerely,

Edward D. Koch

